WHAT IS CLAIMED IS:

1. A method for inspecting defects of a product having a plurality of product units formed repetitively at different locations, comprising:

obtaining an image of the product units on the product having an appearance to be observed;

detecting regions of the image each having an appearance which differs from an expected appearance by greater than a preset threshold;

calculating feature amounts for the detected regions;

classifying the detected regions into groups of defect candidates, each group including defect candidates having similar or identical appearances, or defect candidates which are disposed at corresponding identical locations or adjacent locations on the different product units and have similar or identical appearances;

forming an aggregate of the feature amounts of the detected regions in the different product units, for each of the groups of defect candidates; and

determining for each product unit attributes for the detected regions by comparing the feature amounts of the detected regions belonging to each group of defect candidates with a distribution of the aggregate of the feature amounts for the group of defect candidates, the attributes including a broad classification of the detected regions based on whether the detected regions belonging to each group are genuine defects.

2. The method for inspecting defects according to claim 1, wherein the expected appearance is an appearance of an ideal pattern for the product.

3. The method for inspecting defects according to claim 1, wherein the expected appearance is an appearance of a reference pattern which is determined by comparing the appearances of different product units of the product.

4. The method for inspecting defects according to claim 1, wherein the feature amounts of each detected region comprise at least one of: inspection signal average value, inspection signal scattering data, reference signal average value, reference signal scattering data, brightness differential average value, brightness differential scatter data, detected coordinates position, and defect elliptical approximation size.

5. The method for inspecting defects according to claim 1 wherein defects candidates in a group are not genuine candidates if the number of product units

having the defect candidates at corresponding identical locations or adjacent locations in the group is larger than a preset value.

6. The method for inspecting defects according to claim 1, wherein determining attributes for the detected regions comprises performing a subclassification of the genuine defects identified in the broad classification into different types of genuine defects.

7. A method for inspecting defects of a sample having a plurality of sample regions repetitively formed at different locations, comprising:

capturing an image of the sample;

extracting defect candidates from the captured image;

dividing the extracted defect candidates into groups; and

identifying, for each of the divided groups, genuine defects from the defect candidates by using criteria corresponding to the groups.

8. The method for inspecting defects according to claim 7, wherein each group includes defect candidates having similar or identical appearances, or defect candidates which are disposed at correspondingly identical locations or adjacent locations on the different sample regions and having similar or identical appearances.

9. The method for inspecting defects according to claim 7, wherein dividing the extracted defect candidates into groups comprises capturing the sample images and extracting the defect candidates of the plurality of sample regions on the sample, by using data constituting an aggregate of results of observing the defects candidates in the plurality of sample regions on the sample.

10. The method for inspecting defects according to claim 7, wherein identifying genuine defects from the defect candidates comprises determining the criteria corresponding to the groups by using information on feature amounts of the defect candidates belonging to the separate groups.

11. The method for inspecting defects according to claim 10, wherein identifying genuine defects from the defect candidates comprises:

forming an aggregate of the feature amounts of the defect candidates in the plurality of sample regions in the sample, for each of the groups of defect candidates; and

comparing the feature amounts of the defect candidates belonging to each group with a distribution of the aggregate of the feature amounts for the group of defect candidates.

12. The method for inspecting defects according to claim 10, wherein the feature amounts of each defect candidate comprise at least one of: inspection signal average value, inspection signal scattering data, reference signal average value, reference signal scattering data, brightness differential average value, brightness differential scatter data, detected coordinates position, and defect elliptical approximation size.

13. The method for inspecting defects according to claim 7, further comprising classifying the genuine defects into different types of genuine defects.

14. The method for inspecting defects according to claim 13, further comprising displaying the genuine defects and defect candidates.

15. The method for inspecting defects according to claim 7, further comprising revising the criteria used to identify genuine defects from the defect candidates; and then identifying, for each of the divided groups, genuine defects from the defect candidates by using the revised criteria.

16. The method of inspecting defects according to claim 15, further comprising displaying results of the identifying.

17. A method for inspecting defects, comprising:

capturing an image of a sample;

generating a differential image by comparing the captured image with a pre-stored reference image;

extracting a plurality of defect candidates from the generated differential image by using a first threshold value;

grouping adjacent defect candidates among the plurality of defect candidates extracted into separate groups; and

identifying genuine defects from among the defect candidates of each of the groups.

18. The method for inspecting defects according to claim 17, wherein grouping adjacent defect candidates comprises grouping defect candidates that are adjacent to defect candidates having identical or similar feature amounts among the extracted plurality of defect candidates.

19. The method for inspecting defects according to claim 17, wherein identifying genuine defects comprises determining criteria corresponding to the groups by using information on feature amounts of the defect candidates belonging to the separate groups.

20. The method for inspecting defects according to claim 19, wherein the feature amounts of each defect candidate comprise at least one of: inspection signal average value, inspection signal scattering data, reference signal average value, reference signal scattering data, brightness differential average value, brightness differential scatter data, detected coordinates position, and defect elliptical approximation size.

21. A method for inspecting defects, comprising:

capturing an image of a sample;

detecting defect candidates by comparing the captured image with a pre-stored reference image;

extracting feature amounts for the detected defect candidates;

storing images of the detected defect candidates and the feature amounts of the defect candidates; and

identifying genuine defects from the defect candidates by using the stored defect-candidate images and feature amounts of the defect candidates.

22. The method for inspecting defects according to claim 21, further comprising performing classification of the genuine defects.

23. The method for inspecting defects according to claim 21, wherein extracting the genuine defects comprises grouping adjacent defect candidates among the stored defect candidates into groups of defect candidates and identifying genuine defects from the defect candidates for each of the groups of defect candidates.

24. A method for inspecting defects, comprising:

detecting defect candidates while sequentially inspecting patterns in chips formed repetitively on a sample, with respect to a plurality of chips formed on the sample;

grouping defect candidates into groups of defect candidates, each group including defect candidates which are disposed at corresponding identical locations or adjacent locations on the different chips when overlapped with each other;

setting a threshold value for defect extraction in accordance with feature amounts for the defect candidates for each of the groups; and

extracting genuine defects from among the defect candidates for each of the groups by using the threshold value.

25. The method for inspecting defects according to claim 24, further comprising classifying the extracted genuine defects in accordance with the feature amounts for the genuine defects.

26. The method for inspecting defects according to claim 24, wherein the feature amounts of each defect candidate comprise at least one of: inspection signal average value, inspection signal scattering data, reference signal average value, reference signal scattering data, brightness differential average value, brightness differential scatter data, detected coordinates position, and defect elliptical approximation size.

27. A graphical user interface (GUI) for inspecting defects, the GUI comprising:

items on a display representing defect candidates which are classified into defects and false alarm defect candidates of a product using one or more parameters; and

a user input device to permit a user to modify the one or more parameters used to classify the defects and false alarm defect candidates from the defect candidates so as to reclassify the defect candidates.

28. The GUI according to claim 27, wherein the items on the display comprise images of the defect candidates.

29. The GUI according to claim 27, wherein the defects are further classified into subclasses of defects on the display.